Question 1 [40 points]

This project is about implementing an application to help you get data of clothes from the given closet. In this closet, the clothes are divided into 4 categories: upper clothes, lower clothes, footwears, and socks. The data is represented in a 2-dimensional array (size 4 x N) of String type named `closet`, where 4 is number of categories. Each row of this array represents each clothes' categories in the closet as below:

- Row [0]: upper clothes: tshirt, shirt, sweater, jacket
- Row [1]: lower clothes: jeans, trousers, short
- Row [2]: footwears: sandals, shoes, sneakers, boots
- Row [3]: socks: socks

Each element in the array must conform to the format "color_clothName_cleanedStatus"; for instance, "blue_shirt_true" represents a clean blue shirt. As this element is a shirt, it must be stored in row [0]. You are given the class `Dressing` in **Dressing.java** which some attributes, methods' name and parameters are defined.

Your task is to implement body of the given methods according to the following tasks. Do not modify the given attributes, methods' name, and parameters in **Dressing.java.** Besides, **DressingTester.java** is provided as the main class for testing the program (Do not modify this file).

Task 1 (10 points): How many styles can you get dressed from your closet?

Implement the static method `get_NumAllClothes` in class `Dressing` **(Dressing.java)** as follows:

- **public static int** get_NumAllClothes(String[][] closet): takes a given 2-dimensional array (size 4 x N) *closet* as inputs to calculate How many possible ways you can get dressed from the given *closet* provided that you need to get one piece of cloth from each category?. For example: If the array of *closet* contains the following items:
  - Row [0]: green_tshirt_true, yellow_jacket_false
  - Row [1]: white_short_false
  - Row [2]: blue_sandals_true, black_boots_true
  - Row [3]: black_socks_true

One way to get dress is wearing a green_shirt, a white_short, blue_sandals, and white_socks.

The output should be: Possible combination of all your clothes is "4" styles.

Task 2 (10 points): How many cleaned clothes are there in your closet?

Implement the static method `get_NumAllCleanClothes` in class `Dressing` **(Dressing.java)** as follows:

- **public static int** get_NumAllCleanClothes(String[][] closet): takes a given 2-dimensional array (size 4 x N) *closet* as inputs to check and return the number of all cleaned clothes. The "cleanedStatus" at the end of each element state whether the cloth is cleaned or not; for instance, "red_shirt_false" represents an unclean red shirt. If the array of *closet* contains the following elements:
  - Row [0]: green_tshirt_true, yellow_jacket_false
  - Row [1]: white_short_false
  - Row [2]: blue_sandals_true, black_boots_true
  - Row [3]: black_socks_true

The output should be: You have 4 clean clothes in your closet.

➢ **Task 3 (20 points): How many clothes can you wear according to the weather?**
Implement the static method `get_NumAllClothesByTemp` in class `Dressing`
(Dressing.java) as follows:

- **`public static int get_NumAllClothesByTemp(String[][] closet, int temperature): ):`**
takes a given 2-dimensional array (size 4 x N) type String `closet` and variable `temperature`
type integer as inputs. This method has to check the condition of the given temperature for
appropriate clothes. The method has to count and return the number of all clothes element
that matches with given temperature based on the given rules below:
    - **sweater**, **jacket**, **jeans**, **boots** and **socks** are appropriate for wearing at a temperature
    less than 25 degrees (<25).
    - **tshirt, shirt, trousers, sneakers** and **shoes** are appropriate for wearing temperatures
    between 25 – 65 degrees (25-65).
    - **short** and **sandals** are appropriate for wearing at a temperature greater than 65
    degrees (>65).

    For example, If the array of closet contains the following elements with the temperature
    20 degree:
    - Row [0]: green_tshirt_true, yellow_jacket_false
    - Row [1]: white_short_false
    - Row [2]: blue_sandals_true, black_boots_true
    - Row [3]: black_socks_true
    The output should be: Today temperature is 20 degrees, you have 3 appropriate
clothes to wear.

    Running the main method of **DressingTester.java** should give the following output:
    ```
    @Test Task1
    [closet@1] Possible combination of all your clothes is 4 styles.
    [closet@2] Possible combination of all your clothes is 400 styles.
    @Test Task2
    [closet@1] You have 4 clean clothes.
    [closet@2] You have 10 clean clothes.
    @Test Task3
    [closet@1] Today temperature is 20 degrees, you have 3 appropriate clothes to wear.
    [closet@2] Today temperature is 45 degrees, you have 9 appropriate clothes to wear.
    ```

***Files to submit: ONE files >> Dressing.java

Hint!

You are allow to use predefined function "split()" in the program, example of how the method
works is as follows:

```
String str = "A-B-C-D";
String[] strArray = str.split("-");
System.out.println(Arrays.toString(strArray));  // [A, B, C, D]
```